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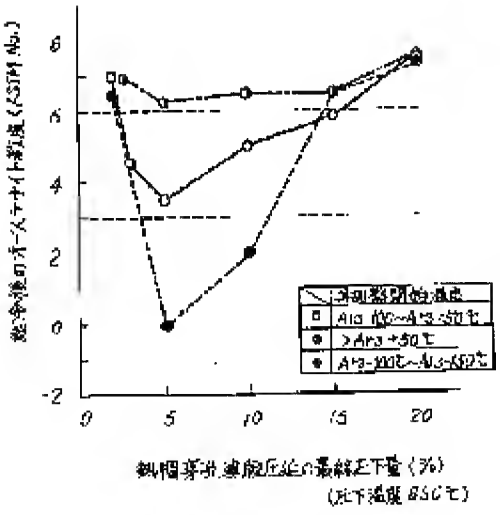
(54) PRODUCTION OF LINE PIPE MATERIAL HAVING HIGH STRENGTH AND LOW YIELD RATIO FOR LOW TEMPERATURE USE



(57)Abstract:
PURPOSE: To obtain a line pipe material having high strength and low yield ratio, excellent in toughness at low temp., and suitable for use in a cold district by specially controlling steel components and hot rolling conditions, respectively.
CONSTITUTION: A billet of a steel which has a composition containing, by weight, 0.02-0.15% C, 0.01-0.5% Si, 0.15-2.0% Mn, ≤0.01% S, ≤0.02% P, 0.005-0.1% Al, 0.0003-0.003% B, 0.005-0.2% Ti, and ≤70ppm N as essential components and having the balance Fe is used. This steel billet is subjected, in the final stage of hot piercing continuous rolling, to working at 900-700°C at 3-15% reduction of area. The resulting hollow pipe stock, whose temp. is lowered down to a temp. in the range between (Ar3 point-100°C) and (Ar3 point + 50°C), is reheated up to 900-1000°C and subjected to hot finish rolling at (Ar3 point + 50°C) finishing temp. Then, the resulting finished steel pipe is subjected to air cooling from ≥Ar3 or is subjected, after air cooling, to heating up to ≤Ac3 and to air cooling to undergo tempering treatment.